(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 8 July 2004 (08.07.2004)

(10) International Publication Number WO 2004/056768 A3

- (51) International Patent Classification⁷: A61K 31/404, 31/4439, 31/405, 31/433, A61P 13/00, 13/08, 13/10
- (21) International Application Number:

PCT/EP2003/013819

- (22) International Filing Date: 6 December 2003 (06.12.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

02028718.1

20 December 2002 (20.12.2002)

- (71) Applicant (for all designated States except US): BAYER HEALTHCARE AG [DE/DE]; 51368 Leverkusen (DE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): ERGÜDEN, Jens [DE/DE]; Bertold-Brecht-Str. 2, 42489 Wülfrath (DE). KRAHN, Thomas [DE/DE]; Wiener Str. 29, 58135 Hagen (DE). SCHRÖDER, Christian [DE/DE]; Kaster-7, 50129 Bergheim (DE). STASCH, Johannes, Peter [DE/DE]; Alfred-Nobel-Str. 109, 42651 Solingen (DE). WEIGAND, Stefan [DE/DE]; Rückertweg 35, 42115 Wuppertal (DE). WILD, Hanno [DE/DE]; Ausblick 128, 42113 Wuppertal (DE). BRANDS, Michael [DE/US]; 35 Deer Pond Trail, Hamden, CT 06518 (US). SIEGEL, Stephan [DE/DE]; Neue Friedrichstr. 59, 42105 Wuppertal (DE). HEIMBACH, Dirk [DE/DE]; An der Kaiserburg 13, 40629 Düsseldorf (DE). KELDENICH, Jörg [DE/DE]; Damaschkeweg 49, 42113 Wuppertal (DE). TAJIMI, Masaomi [JP/JP]; 1-8-17, Sakuragaoka,

Seika-cho, Soraku-gun, Kyoto 61190232 (JP). MAT-SUMOTO, Hiroko [JP/JP]; 4-5-5-602, Shibatsuji-cho, Nara, Nara 630-8114 (JP).

- (74) Common Representative: BAYER HEALTHCARE AG; Law and Patents, Patents and Licensing, 51368 Leverkusen (DE).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 5 August 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



International Application No PCT/EP 03/13819

. CLASSIFICATION OF SUBJECT	MATTER	-		
A. CLASSIFICATION OF SUBJECT CPC 7 A61K31/404 A61P13/08	A61K31/4439 A61P13/10	A61K31/405	A61K31/433	A61P13/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, EMBASE, BIOSIS, BEILSTEIN Data, WPI Data, PAJ

EI O-III	ternar, them Ado Data, EmdASE, BIO.	515, BEILSTEIN Data, WFI	Data, FAU
	ENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the	relevant passages	Relevant to daim No.
P,X P,Y	DE 101 47 672 A (BAYER AG) 10 April 2003 (2003-04-10) the whole document, especially page 7 lines 56, 62-64	1-3,6-8 4	
X Y	WO 97/32874 A (ROUSSEL UCLAF; SANTE RECH MED (FR); DEPREZ PIE DUMA) 12 September 1997 (1997-0 the whole document, especially lines 4-5; page 17 lines 4-11,16,17,24,25,35; page 18 li	6,8	
° Special or onside the consideration of the citatic of the country of the citatic of the citati	ther documents are listed in the continuation of box C. ategories of cited documents: tent defining the general state of the art which is not dered to be of particular relevance document but published on or after the international date eart which may throw doubts on priority claim(s) or as cited to establish the publication date of another on or other special reason (as specified) ment referring to an oral disclosure, use, exhibition or means tent published prior to the international filing date but than the priority date claimed	Taler document published after the intropriority date and not in conflict with cited to understand the principle or the invention "X" document of particular relevance; the cannot be considered novel or cannot involve an inventive step when the decument of particular relevance; the cannot be considered to involve an inventive step when the decument is combined with one or ments, such combined with one or ments, such combination being obvious in the art. "&" document member of the same patents."	emational filing date in the application but eory underlying the claimed invention t be considered to cument is taken alone claimed invention iventive step when the ore other such docu- sus to a person skilled
	actual completion of the international search 17 June 2004	Date of mailing of the international sec 25/06/2004	arch report
Name and	mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Gac, G	



Interpenal Application No PCT/EP 03/13819

		PCT7EP 03/13819
C.(Continua	INTO DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	WO 99/55726 A (NOVARTIS ERFIND VERWALT GMBH; NOVARTIS AG (CH); FINK CYNTHIA ANNE (US) 4 November 1999 (1999-11-04) the whole document, especially abstract,	6,8
	page 1 paragraph 3, page 2, page 41.	
X	WO 97/32849 A (ROUSSEL UCLAF; DEPREZ PIERRE (FR); DUMAS JACQUES (FR); GUILLAUME JACQ) 12 September 1997 (1997-09-12) the whole document, especially abstract, page 13 lines 11-26,30; page 14 line 2	6,8
X	US 6 469 056 B1 (HERGENROEDER STEFAN ET AL) 22 October 2002 (2002-10-22) column 8 lines 4,5,9,10 column 1, line 51 - line 52	6,8
X	US 5 891 892 A (CHENG XUE-MIN ET AL) 6 April 1999 (1999-04-06) abstract	6,8
•		
i		
	}	
		ŀ
	·	



national application No. PCT/EP 03/13819

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)
This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)
This international Searching Authority found multiple inventions in this international application, as follows:
1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this international Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the Invention first mentioned in the claims; it is covered by claims Nos.:
Remark on Protest The additional search fees were accompanied by the applicant's protest.
No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: -

Present claims 6,8 relate to compounds defined by reference to a desirable property, namely their "ECE inhibitory" action. The claims cover all compounds having this property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such compounds.

In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible.

Moreover, general terms like "urological disorder" (claims 1-3,6-8) are very broad and may encompass a huge (and potentially unrelated) and unlimited number diseases, concerning different organs with different functions. It is impossible for the skilled person to know which diseases or disorders are or are not belonging to this broad term/definition.

Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the compounds of claim 1 (also of the examples and the description) in relation to their use to treat disorders mentioned in claims 4 and 5, with due regard to the general concept of the invention.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.



formation on patent family members

PCT/EP 03/13819

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
DE 10147672	Α	10-04-2003	MO MO	10147672 A1 03028719 A1	10-04-2003 10-04-2003
WO 9732874	A	12-09-1997	FR AU AU BR	2745571 A1 724686 B2 1930697 A 9707931 A	05-09-1997 28-09-2000 22-09-1997 27-07-1999
			CA CN EP	2248187 A1 1218467 A 0888341 A1	12-09-1997 02-06-1999 07-01-1999
			JP NO	9732874 A1 2000507220 T 984047 A	12-09-1997 13-06-2000 03-11-1998
			PL RU TR US	328699 A1 2203661 C2 9801756 T2 6136842 A	15-02-1999 10-05-2003 21-12-1998 24-10-2000
WO 9955726	A	04-11-1999	AU BR	3819999 A 9909805 A	16-11-1999 26-12-2000
			CA CN WO EP	2323691 A1 1297453 T 9955726 A1 1073674 A1	04-11-1999 30-05-2001 04-11-1999 07-02-2001
			HU ID JP	0101640 A2 26822 A 2002513032 T	28-09-2001 15-02-2001 08-05-2002
			NO PL SK	20005293 A 343594 A1 15812000 A3	18-12-2000 27-08-2001 12-03-2001
WO 9732849	Α	12-09-1997	ZA FR	200004680 A 2745570 A1	06-03-2001 05-09-1997
			AU AU BR CA	722680 B2 1930797 A 9707908 A 2248188 A1	10-08-2000 22-09-1997 27-07-1999 12-09-1997
			CN EP WO	1217713 A 0888299 A1 9732849 A1	26-05-1999 07-01-1999 12-09-1997
			JP NO PL	2000506156 T 984048 A 328705 A1	23-05-2000 03-11-1998 15-02-1999
			RU TR US US	2215526 C2 9801750 T2 2002161030 A1 6420341 B1	10-11-2003 22-02-1999 31-10-2002 16-07-2002
US 6469056	B1	22-10-2002	AU	19745146 A1 1023599 A 9813037 A	15-04-1999 03-05-1999
			BR CA CN WO	2305499 A1 1275981 T 9919320 A1	15-08-2000 22-04-1999 06-12-2000 22-04-1999
			WO EP HU JP	1023282 A1 0004734 A2 2001519427 T	02-08-2000 28-05-2001 23-10-2001
			NO	20001846 A	10-04-2000



**** formation on patent family members

Intermional Application No PCT/EP 03/13819

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 6469056	B1		ZA	9809312 A	13-04-2000
US 5891892	Α	06-04-1999	NONE		